

**Notice of Allowability**

Application No.

10/630,694

Examiner

Arnel C. Lavarias

Applicant(s)

TANAKA ET AL.

Art Unit

2872

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/5/05.
2. ☒ The allowed claim(s) is/are 1,7-12,18 (renumbered 1-8).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendments to Claims 1, 12, and 18 in the submission dated 12/5/05 is acknowledged and accepted.

### ***Response to Arguments***

2. The Applicants argue that, with respect to newly amended Claims 1, 12, and 18, as well as Claims 7-11 which depend on Claim 1, the combined teachings of Lewis, King et al., Bloom et al., and Hariharan fail to teach or reasonably suggest the diffracted light component blocking element blocking tertiary diffracted light or more in terms of an absolute value and allowing secondary diffracted light in terms of an absolute value to pass by the individual diffraction control elements. After reviewing the Lewis, King et al., Bloom et al., and Hariharan references, the Examiner agrees, and respectfully withdraws the rejections in Sections 8-10 of the Office Action dated 7/5/05.

### ***Allowable Subject Matter***

3. Claims 1, 7-12, and 18 are allowed.

### **REASONS FOR ALLOWANCE**

4. The following is an examiner's statement of reasons for allowance:

Claims 1, 12, and 18 are allowable over the cited art of record for at least the reason that the cited art of record fails to teach or reasonably suggest a hologram recording apparatus and method, and hologram recording medium, as generally set forth in Claims 1, 12, and 18, the apparatus, method, and medium including, in combination with the features recited in Claims 1, 12, and 18, the diffraction control element having a plurality of individual diffraction control elements, the individual diffraction control elements having even numbers of phase control elements, and the diffracted light component blocking element blocking tertiary diffracted light or more in terms of an absolute value and allowing secondary diffracted light in terms of an absolute value to pass by the individual diffraction control elements. Claims 7-11 are dependent on Claim 1, and hence are allowable for at least the same reasons Claim 1 is allowable.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 3862357 to Kanazawa et al.

Kanazawa et al. is being cited to evidence a conventional holographic recording and reconstructing optical system (See for example Figures 5-7), wherein a blocking mask (See for example 8 in Figure 5; Figures 2, 4) including an inner and outer blocking region (See 11, 10, respectively in Figure 4) to block out low frequency components generated by a Fourier transforming lens (See 1 in Figure 5). In particular, Kanazawa et al. discloses that the inner blocking region may be sized to block at least the 0<sup>th</sup> order light, as possibly even higher order light, based on resolution considerations (See col. 3, line 65-col. 4, line 44). However, no mention is made of allowing second order light to pass and blocking third and higher order light.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 9:30 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Arnel C. Lavarias  
Patent Examiner  
Group Art Unit 2872  
1/27/06